

WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

NORTH ATLANTIC OCEAN

By F. A. YOUNG

While over the ocean as a whole the number of days on which gales occurred did not differ materially from the normal as shown on the Pilot Chart, there were few days in the month in which heavy weather was not encountered over some part of the northern section of the ocean and the gales were exceptionally severe over the steamer lanes during the latter half. The Icelandic Low was unusually active during the greater part of the month as indicated by the marked negative departures at the three land stations on the British Isles, shown in Table 1.

During the greater part of the first two decades the Azores HIGH was well developed, although on the 1st and 2d an intrusion of low pressure was responsible for a disturbance in that region that will be referred to later.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level, 8 a. m. (seventy-fifth meridian), North Atlantic Ocean, November, 1929

Stations	Average pressure	Departure	Highest	Date	Lowest	Date
	Inches	Inch (U)	Inches		Inches	
Julianebsab, Greenland.....	29.54	(U)	30.12	12th	28.54	17th.
Belle Isle, Newfoundland.....	29.73	±-0.10	30.50	1st.	28.60	16th.
Halifax, Nova Scotia.....	30.01	±+0.08	30.58	1st.	29.12	23th.
Nantucket.....	30.04	±+0.02	30.44	23d.	29.18	28th.
Hatteras.....	30.10	±-0.02	30.38	22d.	29.58	28th.
Key West.....	30.02	±-0.03	30.10	10th.	29.92	28th.
New Orleans.....	30.12	±-0.03	30.42	30th.	29.90	13th.
Cape Gracias, Nicaragua.....	29.90	±-0.03	29.90	10th.	29.80	1st.
Turks Island.....	30.04	±+0.05	30.12	15th.	29.92	17th.
Bermuda.....	30.08	±0.00	30.34	1st.	29.74	10th.
Horta, Azores.....	30.19	±+0.09	30.60	11th.	29.46	26th.
Lerwick, Shetland Islands.....	29.44	±-0.26	30.06	1st.	29.76	12th.
Valencia, Ireland.....	29.56	±-0.33	30.28	1st.	29.78	22d.
London.....	29.94	±-0.20	30.46	4th.	29.27	30th.

¹ No normal available.

² From normals shown on Hydrographic Office Pilot Chart, based on observations at Greenwich mean noon, or 7 a. m., seventy-fifth meridian time.

³ From normals based on 8 a. m. observations.

⁴ And on other date or dates.

The number of days with fog was apparently considerably below normal over the greater part of the ocean. It was reported on from 6 to 9 days over the Grand Banks, from 4 to 6 days along the American coast north of Hatteras, and from 2 to 3 days in the Gulf of Mexico. Over the steamer lanes between the tenth and fortieth meridians fog did not occur on more than two days in any 5°-square; it was reported on three days off the coast of Spain and Portugal, while the British Isles were comparatively clear.

The first disturbance of any intensity in southern waters occurred on the first and 2d when a well-developed low was over the region between the Azores and Bermuda, with moderate to strong gales over a limited area near the center.

From the 4th to 10th heavy weather was the rule over the middle and eastern sections of the steamer lanes, although the storm area varied considerably in extent and intensity from day to day. On the 9th and 10th there was also a disturbance of marked intensity between the Bermudas and Nantucket, and on the latter date northerly winds of force 7 to 10 were reported from the westerly quadrants.

From the 11th to 13th land stations in northern Europe reported barometric readings well below 29 inches, and on the 11th and 12th strong westerly to northwesterly gales prevailed between the 30th meridian and British coast.

On the 14th to 16th a storm area covered the region from the 25th meridian to the coast of southern Europe, and on the latter day gales were also encountered in the vicinity of the Azores.

From the 17th to 29th the steamer lanes were swept by one severe disturbance after another, the storm area at times extending from the 10th to 55th meridians.

Charts VIII to XI cover the period from the 24th to 27th, when winds of force 11 and 12 were encountered by a number of vessels, as shown by reports in table.

OCEAN GALES AND STORMS, NOVEMBER, 1929

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Highest force of wind and direction	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
North Atlantic Ocean—													
Yuri Maru, Jap. S. S.	Oran.	Boston.	39 45 N.	45 30 W.	Oct. 31.	7 p., 1	Nov. 2.	29.83	NE	NE., 8	NNE	NE., 9	
Bird City, Am. S. S.	Copenhagen.	Baltimore.	55 45 N.	30 10 W.	31	2 p., 1	2	29.71	W	WSW., 8	W	WSW., 9	Steady.
Oranian, Br. S. S.	Liverpool	Barbados	33 00 N.	37 14 W.	Nov. 3.	8 p., 3	4	29.86	SE	SE., 8	Var.	SE., 10	SE.-S.-SSW.
Sagapora, Am. S. S.	Norway	Portland, Me.	59 06 N.	10 10 W.	7	8 p., 7	12	28.74	SW	S., 8	NW	—, 10	WSW.-WNW.
Exmouth, Am. S. S.	Casablanca	New York	38 08 N.	67 04 W.	9	10 a., 9	10	29.61	N	—, 10	N	—, 10	NW.-N.-NNE.
Dordrecht, Du. S. S.	Helsingfors	do	49 10 N.	41 00 W.	10	Noon, 10	10	29.31	S	WSW., 9	N	WSW., 9	Steady.
Duquesne, Am. S. S.	Manchester	New Orleans.	51 20 N.	8 00 W.	11	3 a., 11	16	29.77	WSW	WSW., 8	WSW	—, 10	WSW.-W.-NW.
Henri Jasper, Belg. S. S.	Antwerp	New York	50 30 N.	18 30 W.	14	2 a., 15	15	29.59	SSE	SW	NNW	N., 11	SW.-W.
Loriga, Br. M. S.	London	Canal Zone	48 38 N.	6 28 W.	15	—, 15	16	28.78	S	W	NNW	W., 10	Steady.
Stuttgart, Ger. S. S.	New York	Bremerhaven	44 10 N.	52 51 W.	16	9 a., 16	18	29.15	W	W., 9	W	W., 11	Do.
Norwegian, Br. S. S.	Liverpool	Boston	50 38 N.	42 25 W.	16	3 a., 17	19	28.93	SE	SW., 11	NW	SW., 11	SW.-WNW.
Bellflower, Am. S. S.	Cork	New York	51 25 N.	23 09 W.	17	Noon, 17	24	29.07	SSE	SSE	N	NW., 11	WSW.-NW.
Milwaukee, Ger. S. S.	Bishop's Rocks.	do	50 00 N.	13 50 W.	18	11 a., 18	18	29.39	S	SSW	WSW	SSW., 10	SSW.-WSW.
Coaxet, Am. S. S.	Houston	Liverpool	46 25 N.	26 01 W.	21	10 a., 21	21	29.14	NW	WNW, 11	—	WNW, 11	WNW.-NW.
Quaker City, Am. S. S.	Dundee	Philadelphia	57 10 N.	24 25 W.	22	6 p., 22	26	28.86	NE	NW., 9	NW	—, 11	—
Grete, Ger. S. S.	Savannah	Bremen	48 30 N.	25 30 W.	21	9 p., 24	26	28.84	NW	WNW, 11	W	—, 11	NW.-W.
Sarcosie, Am. S. S.	Havre	New York	40 55 N.	65 22 W.	25	6 a., 25	25	29.68	W	W., 7	NW	NW., 10	—
Quaker City, Am. S. S.	Dundee	Philadelphia	49 30 N.	45 00 W.	26	6 p., 26	29	28.53	NW	NW, 9	W	—, 12	—
Sundance, Am. S. S.	Savannah	Liverpool	47 00 N.	25 00 W.	26	6 a., 26	27	28.56	SE	SE., 7	S	SE., 12	SE.-S.
Antinous, Am. S. S.	Mobile	Bremen	44 25 N.	43 08 W.	26	4 a., 27	28	29.10	W	W	NW	—, 11	—
Naples Maru, Jap. S. S.	Hamburg	New York	44 25 N.	48 07 W.	21	9 a., 28	29	28.96	WNW	WNW, 11	NW	NW., 12	—
North Pacific Ocean—													
Taiyo Maru, Jap. S. S.	Yokohama	San Francisco	24 50 N.	165 38 W.	2	2 a., 4	4	29.74	NNE	SSW., 4	SW	N., 8	Steady.
California, Am. S. S.	Otaru	do	46 00 N.	161 00 E.	3	5 p., 3	3	29.47	WSW	W., 9	NW	WSW., 9	WSW.-WNW.
Chief Capitano, Br. S. S.	Karatsu	San Pedro	49 30 N.	172 00 W.	4	2 a., 4	4	28.92	S	SSW., 9	SW	SE., 11	S.-SSW.-WSW.
City of Victoria, Can. S. S.	Grays Harbor	Yokohama	52 20 N.	168 50 W.	4	4 p., 4	5	28.89	SE	SSW., 9	WSW	SSW., 9	S.-SSW.-WSW.
Kurohime Maru, Jap. S. S.	Everett	Kobe	50 40 N.	178 00 E.	5	6 a., 5	6	29.36	W	W., 8	—	W., 10	—
Do	do	do	48 00 N.	165 30 E.	8	11 p., 8	9	29.25	W	W., 8	—	W., 9	—
Golden Hind, Am. S. S.	Hong Kong	San Francisco	47 29 N.	179 03 E.	8	Noon, 8	8	29.52	S	S., 9	W	S., 9	S-W.
California, Am. S. S.	Otaru	do	46 38 N.	159 00 W.	8	5 p., 9	9	29.82	SSE	SSW., 8	W	S., 10	Do.
Do	do	do	46 55 N.	152 30 W.	10	6 a., 11	11	29.01	SE	S., 11	SW	S., 11	S.-SW.

OCEAN GALES AND STORMS, NOVEMBER, 1929—Continued

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of low st barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Highest force of wind and direction	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
North Pacific Ocean—Continued													
Yokohama Maru, Jap. S. S.	Victoria.....	Yokohama....	51 43 N.	172 28 W.	8	4 a., 10.	10.	28.76	S	SW., 10.	NW	SW., 11.	
Pres. Jefferson, Am. S. S.	do.....	do.....	50 54 N.	178 50 W.	8	Noon, 8.	10.	28.95	SW	SSE., 10.	W	W., 10.	SSE-SE.
City of Victoria, Can. S. S.	Grays Harbor.....	do.....	50 50 N.	177 12 E.	9	10 a., 9.	10.	28.91	SSE	SW., 7.	W	WSW., 11.	SSE-SW.
Emp. of Russia, Br. S. S.	Victoria.....	do.....	50 17 N.	175 41 E.	9	8 a., 9.	10.	28.96	SSE	SSW., 9.	W	W., 12.	5 points.
Golden Wall, Am. S. S.	Shanghai.....	San Francisco	47 50 N.	153 60 W.	9	9 p., 10.	11.	29.24	SSW	SSW., —	SW	SW., 9.	SSE-SSW.
Golden Dragon, Am. S. S.	Hong Kong.....	do.....	22 05 N.	121 08 E.	10	4 p., 11.	11.	30.02	NE	NE., 8.	NE	NE., 8.	Steady.
William Penn, Am. M. S.	Nagoya.....	San Pedro.....	44 50 N.	167 15 E.	10	4 a., 11.	13.		NNW	NW., 8.	NW	NW., 9.	NNW-WNW.
Tacoma, Am. S. S.	Hong Kong.....	San Francisco	45 06 N.	143 25 W.	11	1 p., 11.	12.	29.72	SSE	S., 9.	SSW	S., 9.	S-SSW.
West Montop, Am. S. S.	Philadelphia.....	Seattle.....	13 20 N.	93 35 W.	16	4 p., 16.	17.	29.77	NNW	NNW., 8.	NNE	N., 8.	NNW-NNE.
Juyo Maru, Jap. S. S.	Milke.....	Vancouver.....	48 35 N.	176 30 E.	16	8 a., 17.	17.	29.53	SSE	SE., 8.	S	SE., 9.	SE-S-SW.
William Penn, Am. M. S.	Nagoya.....	San Pedro.....	46 26 N.	149 53 W.	17	1 p., 18.	19.	28.94	ENE	SE., 9.	S	S., 9.	SE-S.
Iyo Maru, Jap. S. S.	Yokohama.....	Victoria.....	40 03 N.	150 43 E.	18	8 p., 18.	21.	29.51	S	SSW., 7.	NW	WNW., 10	
Toyama Maru, Jap. S. S.	do.....	do.....	41 55 N.	155 03 E.	21	4 p., 22.	23.	29.29	W	WNW., 10	NW	WNW., 10	WNW-NW.
San Julian, Am. S. S.	San Pedro.....	Balboa.....	15 53 N.	95 30 W.	23	Noon, 23.	24.	29.78	NE	NE., 6.	N	NE., 9.	Steady.
Olympia, Am. S. S.	Otaru.....	San Francisco	43 54 N.	162 40 E.	28	11 a., 28.	28.	28.94	E	NE., —	NW	NE., 9.	ENE-NE.
Admiral Rogers, Am. S. S.	Seattle.....	Kodiak.....	58 54 N.	151 48 W.	28	2 p., 28.	28.	29.82	NE	NE., 7.	—	—, 8.	
Koyo Maru, Jap. S. S.	Milke.....	San Pedro.....	41 29 N.	165 23 W.	28	5 p., 28.	29.	29.50	S	S., 9.	SW	S., 9.	S-SSW.

551.506 (265.2)

NORTH PACIFIC OCEAN

By WILLIS E. HURD

At the beginning of November atmospheric pressure was above 30 inches over most of the Aleutian region west of the Alaska Peninsula, but after the 1st or 2d of the month cyclonic conditions entered and became increasingly active for nearly two weeks. By the 8th a disturbance of great energy had developed, with central pressures below 29 inches. It gradually spread eastward, until by the 11th it had covered most of the upper waters of the ocean. Thereafter it diminished as an oceanic cyclone, but an offshoot from it entered British North America as a traveling cyclone and later crossed to the Atlantic Ocean between Newfoundland and Greenland. Cyclonic conditions of variable energy prevailed over the northern Pacific until the end of the month, again attaining considerable intensity on the 29th and 30th. The average center of the Aleutian cyclone this month lay over the eastern part of the Bering Sea.

The California-Pacific anticyclone crested on the average nearly midway between Oregon and the Hawaiian Islands. Owing to the frequent southward extension of the northern cyclone along longitudes 155° to 165° W., the HIGH was divided by a shallow trough of low pressure, another anticyclonic crest appearing in the neighborhood of Midway Island.

Farther west high pressure overlay the China coast, resulting in a frequent strong northeast monsoon current from the China Sea northward, sometimes, as on the 2d to 4th, and the 10th and 11th, south of Taiwan, acquiring the force of a fresh gale.

Barometric data for several island and coast stations in west longitudes, including Point Barrow in the Arctic Ocean, are given in the following table:

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level at indicated hours, North Pacific Ocean and adjacent waters, November, 1929

Stations	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	Inches	Inch	Inches		Inches	
Point Barrow ^{1 2}	30.10		30.68	18th	29.40	25th.
Dutch Harbor ^{1 3}	29.45	-0.14	30.24	16th	28.54	30th.
St. Paul ^{1 3}	29.40	-0.22	30.14	2d	28.54	10th. ⁴
Kodiak ¹	29.60	+0.06	30.36	18th	28.46	12th.
Midway Island ¹	30.16	+0.09	30.34	2d	29.96	28th. ⁴
Honolulu ⁴	29.99	-0.03	30.07	7th	29.83	20th.
Juneau ⁴	29.75	-0.01	30.36	6th	29.19	15th.
Tatoosh Island ^{4 5}	30.07	+0.10	30.38	31st	29.64	16th.
San Francisco ^{4 5}	29.99	-0.11	30.14	11th	29.84	28th.
San Diego ^{4 5}	29.92	-0.08	30.02	31st	29.66	28th.

¹ P. m. observations only.² For 27 days.³ For 29 days.⁴ A. m. and p. m. observations.⁵ Corrected to 21-hour mean.⁶ And on other days.

Despite the rather severe aspects of the northern cyclones on several days, somewhat fewer gales disturbed the upper steamship routes than in October. This was due in part to the absence of typhoons in eastern Japanese waters and in part to the shifting westward since October of the central storm region from the Gulf of Alaska to the Aleutians and the Bering Sea. Very few gales, consequently, were encountered over the eastern portion of the routes. Along the central portion, in spite of the storm concentration there, conditions generally were not as rough as in October, although storm to hurricane forces were experienced by vessels on the 4th, 9th, 10th, and 11th. These gales occurred mostly south of the Aleutians, except that of the 11th, which was near latitude 46° N., longitude 153° W. The gales of the 9th to the 11th show the progressive nature for those days of the more violent portion of the disturbance of the 8th to 16th, the earliest